

Risk Analysis of Unsecured Money Market Credits

For the Federal Housing Finance Board

By Tim Sidley, VP Risk Assessment



Description of WesCorp

- A member-owned, not-for-profit co-operative
- Owned by 985 member credit unions in 32 states
- 587 of 607 California Credit Unions are members
- Located in the Los Angeles area
- National field of membership
- The largest of 33 corporate credit unions
- Chartered in 1969, the first corporate credit union
- Moody's Rating: P-1 and AA3
- S&P Rating: A-1+ and AA-

Description of WesCorp

- Total Assets \$22 billion
- Capital \$1.3 billion
- Employees: 345 FTE/ 98 PTE
- Three Tier structure
 - Natural person credit unions
 - Corporate credit unions
 - U.S. Central Credit Union (Wholesale)
- Products
 - Investments: certificates, market daily and broker/dealer
 - Liquidity services- Loans to members
 - Item processing, funds transfer & settlement
 - ALM

Risk Assessment Division

- Independent Risk Measurement Division
- Reports to Supervisory Committee
- Reports dotted line to CEO
- Measure and Reports Interest Rate Risk
- Recommends Counterparties to ALCO
- Recommends Investment Securities to ALCO
- Chairman of Member Credit Committee
- Internal Audit
- Measure and Reports Operations Risk

Why do we invest in unsecured credit

- Only in short maturities
 - Overnight
 - 9 month to 1 year maximum maturity
- To Store Liquidity
- Transactions are Bank to Bank
- Only market that has capacity
- Interest Income

Definition of Federal Funds Transactions

- A short term or open-ended unsecured transfer of immediately available funds by one depository institution to another depository institution or entity.
- Federal Funds transactions are usually overnight transactions.
- Term Federal Funds: A depository institution's excess reserves that it loans unsecured at a negotiated interest rate for longer-than-normal periods of time, i.e. longer than overnight.

Eurodollar Deposits LIBOR

- A deposit issued by a bank or branch outside the United States, with interest and principal paid in dollars.
- London-Interbank Offered Rate- British Bankers Association fixing for US Dollar. The fixing is conducted at 11am (London time). For the overnight rate, the value date is on the same day as the fixing rate, with the maturity date falling the next business day in both centers.

Mechanics of Fed Funds Transactions

- Fed Funds Brokers (as agent only)
- Trade direct with some Counterparties
- Don't like to pair-off
- Funds must be returned before execution of new trade
- Daylight Overdraft Issues
- WesCorp is a Bankers Bank (FRB definition)
- Fed Effective Rate
- Month-end, quarter-end and year-end fluctuations

Mechanics in Eurodollar Deposits

- Same as Federal Funds
- We leave overnight orders with brokers
- 1 to 2 basis points better rates
- Offshore branches must be chartered in approved country

Top 25 Banks in the World (excluding Japan)

			Short Term Rating			Long Term Rating			Outlook		
			Moody's	S&P	Fitch	Moody's	S&P	Fitch	Moody's	S&P	Fitch
Citigroup Inc.	US	*	P1	A1+	F1+	Aa1	AA-	AA+	Stable	Stable	Stable
Deutsche Bank	Germany	*	P1	A1+	F1+	Aa3	AA-	AA-	Negative	Stable	Negative
UBS AG	Germany	*	P1	A1+	F1+	Aa2	AA+	AAA	Stable	Negative	Negative
BNP Paribas	France	*	P1	A1+	F1+	Aa2	AA-	AA	Stable	Stable	Stable
HSBC Holdings PLC	UK	*	NA	A1	F1+	A1	A+	AA-	Stable	Stable	Stable
J.P. Morgan & Chase Co.	US	*	P1	A1	F1	A1	A+	A+	Stable	Negative	Negative
Bayerische Hypo und Vereinsbank AG	Germany		P1	A2	F1	A3	A-	A	Stable	Negative	Stable
ING Group NV	Netherlands	*	NA	A1	NA	Aa2	A+	NA	NA	Stable	NA
Bank of America Corp.	US	*	P1	A1	F1+	Aa2	A+	AA-	NA	Stable	Positive
Credit Suisse Group	Switzerland	*	NA	A1	F1+	Aa3	A	AA-	Negative	Stable	Negative
Royal Bank of Scotland Group PLC	UK	*	P1	A1	F1+	Aa3	A+	AA	Stable	Positive	Stable
ABN Amro Holding NV	Netherlands	*	NA	NA	NA	A1	NA	NA	NA	NA	NA
Barclays PLC	UK	*	P1	A1+	F1+	Aa2	AA	AA+	Stable	Negative	Stable
Dresdner Bank AG	Germany	*	P1	A1	F2	Aa3	A+	A-	Negative	Negative	Stable
Societe Generale	France	*	P1	A1+	F1+	Aa3	AA-	AA	Stable	Stable	Negative
HBOS PLC	UK	*	NA	A1+	F1+	NA	AA-	AA	NA	Negative	Stable
Commerzbank	Germany	*	P1	A2	F2	A2	A-	A-	Stable	Negative	Stable
Credit Agricole SA	France	*	P1	A1+	F1+	Aa1	AA	AA+	Negative	Negative	Negative
Fortis Utrecht	Netherlands		NA	A1	F1	NA	A+	A+	NA	Negative	Positive
WesDeutsche Landesbank Giroentrale	Germany	*	P1	A1+	F1+	Aa1	AA+	AAA	Stable	Negative	Stable
Lloyds TSB Group PLC	UK	*	P1	A1+	F1+	Aaa	AA	AA+	Stable	Negative	Stable
Wachovia	US	*	P1	A1	F1	Aa3	A	A+	NA	Stable	Stable
Rabobank Group	UK	*	P1	A1+	F1+	Aaa	AAA	AA+	Stable	Stable	Stable
Abbey National PLC	UK	*	P1	A1+	F1+	Aa2	AA-	AA-	NA	Negative	Stable
Santander Central Hispano NA	Spain		P1	A1	F1	A1	A	A+	Stable	Stable	Stable
Source: Bloomberg									* WesCorp's Counterparty		

Country Limits

- WesCorp approved countries:
 - Canada
 - United Kingdom
 - France
 - Germany
 - Netherlands
 - Switzerland
- Country Limit: 250% of WesCorp Capital
- Sovereign Obligation: 50% of WesCorp Capital

Country Analysis

- Background
- Political Overview
- Economic Overview
- Government Finance
- Trade Balance
- Banking Sector
- Rating
- Financial Regulator

Credit Analysis of Counterparties

- Rating
- Size of bank
- Background of organization
- Business segment analysis
- Management
- Liquidity
- Accounting Standards
- Peer analysis
- Regulator

Counterparty Performance Analysis

- Net Interest Income (growth and quality)
- Return on Assets
- Return on Equity
- Efficiency Ratio
- Liquidity Ratio
- Loss Provision/Loans
- Problem Loans/Loans
- Capital Ratio- Tier1
- Capital Ratio- Total Capital

Surveillance

- Rating Agencies
- Newspapers
- Economist
- Track Equity Prices
- Industry Contacts
- Bloomberg
- Broker/Dealer Research

Ratings Surveillance - Domestic

DOMESTIC ISSUER/ COUNTERPARTY	Short Term Rating			Long Term Rating			Outlook			S-T Rating			L-
	Moody's	S&P	Fitch	Moody's	S&P	Fitch	Moody's	S&P	Fitch	Mdy	S&P	Fitch	Mdy
DOMESTIC ISSUERS (Minimum A1 or equivalent (S/T); A- or equivalent (L/T))										Ratings Change Ale			
American Express Centurion Bank	P-1	A-1	F1	Aa3	A+	A+	STABLE	NEG	STABLE				
Bank of America NA	P-1	A-1+	F1+	Aa1	AA-	AA	NA	STABLE	STABLE				
Bank of New York	P-1	A-1+	F1+ *-	Aa2	AA-	AA- *-	NEG	STABLE	NA				
Bank One NA	P-1	A-1	F1+	Aa2	A+	A+	STABLE	STABLE	STABLE				
First USA Bank	P-1	A-1	F1+	Aa2	A+	A+	STABLE	STABLE	STABLE				
Bear Stearns Companies Inc.	P-1	A-1	F1+	A2	A	A+	STABLE	NEG	NEG				
Branch Banking & Trust SC	P-1	A-1	F1+	Aa3	A+	A+	POS	STABLE	POS				
Citibank NA	P-1	A-1+	F1+	Aa1	AA	AA+	STABLE	STABLE	STABLE				
Salomon Smith Barney Holdings Inc.	P-1	A-1+	F1+	Aa1	AA-	AA+	STABLE	STABLE	STABLE				
Comerica Bank	P-1	A-1	F1	A1	A	A+	STABLE	STABLE	NEG				
Countrywide Securities Corp (Home Loans)	P-2	A-1	F1	A3	A	A	STABLE	STABLE	STABLE				
Fannie Mae	P-1	NA	F1+	Aaa	NA	AAA	STABLE	NA	STABLE				
Fifth Third Bank	P-1	A-1+	F1+	Aa1	AA-	AA-	NA	STABLE	STABLE				
Fleet National Bank	P-1	A-1	F1	Aa3	A+ *-	A	NEG	NA	STABLE				
Freddie Mac	P-1	NA	F1+	Aaa	NA	AAA	STABLE	NA	STABLE				
Goldman Sachs Group Inc.	P-1	A-1	F1+	Aa3	A+	AA-	STABLE	STABLE	NEG				
HSBC Bank USA	P-1	A-1+	F1+	Aa3	AA-	AA-	NA	STABLE	STABLE				
JPMorgan Chase Bank	P-1	A-1+	F1+	Aa3	AA-	A+	STABLE	NEG	NEG				
Chase Manhattan Bank USA, NA	P-1	A-1+	F1+	Aa3	AA-	A+	STABLE	NEG	NEG				
Key Bank USA, NA	P-1	A-1	F1	A1	A	A	STABLE	NEG	STABLE				
Lehman Brothers Holdings Inc.	P-1	A-1	F1	A2	A	A+	POS	NEG	STABLE				
Lehman Brothers Inc.	P-1	A-1	F1	A1	A+	A+	POS	NEG	STABLE				
Marshall & Isley Bank	P-1	A-1	F1+	Aa3	A+	A+	STABLE	STABLE	NA				
Mellon Bank NA	P-1	A-1+	F1+	Aa3	AA-	AA-	NA	STABLE	STABLE				
Merrill Lynch & Co Inc.	P-1	A-1	F1+	Aa3	A+	AA-	STABLE	STABLE	NEG				
Morgan Stanley Dean Witter & Co.	P-1	A-1	F1+	Aa3	A+	AA-	STABLE	NA	STABLE				
National City Bank	P-1	A-1	F1+	Aa3	A+	AA-	NA	STABLE	STABLE				
Northern Trust Co	P-1	A-1+	F1+	Aa3	AA-	AA	NA	STABLE	STABLE				
PNC Bank NA	P-1	A-1	F1	A1	A	A	NEG	NEG	STABLE				
SouthTrust Bank NA	P-1	A-1	F1	A1	A	A	STABLE	STABLE	STABLE				
State Street Bank & Trust Co	P-1	A-1+	F1+	Aa2	AA	AA+	NA	STABLE	NA				
SunTrust Bank	P-1	A-1+	F1+	Aa2	AA-	AA-	STABLE	STABLE	STABLE				
Union Bank of California	P-1	A-2	F1	A1	A-	A	STABLE	NA	STABLE				
US Bank NA	P-1	A-1	F1+	Aa2	A+	A+	STABLE	STABLE	STABLE				
US Central Credit Union	P-1	A-1+	F1+	Aa1	AAA	AAA	STABLE	NA	STABLE				
Wachovia Bank NA	P-1	A-1	F1	Aa2	A+	A+	NA	STABLE	NA				
Wells Fargo Bank NA	P-1	A-1+	F1+	Aa1	AA-	AA	POS	POS	STABLE				
WesCorp	P-1	A-1+	WR	Aa3	AA-	WR	NA	STABLE	NA				

Source: Bloomberg

* Under Review With Neutral Implications

*+ Under Review With Positive Implications

*- Under Review With Negative Implications

Ratings Surveillance - Foreign

FOREIGN ISSUER/ COUNTERPARTY	Short Term Rating			Long Term Rating			Outlook			S-T Rating			L-
	Moody's	S&P	Fitch	Moody's	S&P	Fitch	Moody's	S&P	Fitch	Mdy	S&P	Fitch	Mdy
FOREIGN BANK ISSUERS [Minimum A1 or equivalent (S/T); AA or equivalent (L/T)]													
Abbey National PLC	P-1	A-1+	F1+	Aa2	AA-	AA-	STABLE	NEG	STABLE				
ABN-AMRO Bank NV	P-1	A-1+	F1+	Aa3	AA-	AA-	STABLE	STABLE	STABLE				
Bank of Montreal	P-1	A-1+	F1+	Aa3	AA-	AA-	NEG	NEG	STABLE				
Bank of Nova Scotia	P-1	A-1	F1+	Aa3	A+	AA-	STABLE	STABLE	STABLE				
Bank of Scotland	P-1	A-1+	F1+	Aa2	AA	AA+	STABLE	NEG	STABLE				
Barclays Bank PLC	P-1	A-1+	F1+	Aa1	AA	AA+	STABLE	STABLE	STABLE				
Bayerische Landesbank Girozentrale	P-1	A-1+	F1+	Aaa	AAA	AAA	STABLE	NEG	STABLE				
BNP Paribas SA	P-1	A-1+	F1+	Aa2	AA-	AA	STABLE	STABLE	STABLE				
Caisse des Depots et Consignations	P-1	A-1+	F1+	Aaa	AAA	AAA	STABLE	STABLE	STABLE				
Canadian Imperial Bank of Commerce	P-1	A-1	F1+	NA	A+	AA-	STABLE	STABLE	STABLE				
CDC Ixis	P-1	A-1+	NA	Aaa	AAA	NA	NA	NEG	NA				
Credit Agricole Indosuez - Paris	P-1	A-1+	F1+	Aa2 *-	AA *-	AA+ *-	NA	NA	NA				
Credit Suisse First Boston	P-1	A-1	F1+	Aa3	A+	AA-	NEG	STABLE	STABLE				
Deutsche Bank	P-1	A-1+	F1+	Aa3	AA-	AA-	NEG	STABLE	NEG				
Dresdner Bank AG	P-1	A-1	F1	Aa3	A+	A+ *-	NEG	NEG	NA				
Halifax Group PLC	NA	A-1+	F1+	Aa2	AA-	AA+	STABLE	NEG	STABLE				
HBOS PLC	NA	A-1+	F1+	Aa3	AA-	AA	NA	NEG	STABLE				
HSBC Bank PLC - London	P-1	A-1+	F1+	Aa2	AA-	AA	STABLE	STABLE	STABLE				
ING Bank NV	P-1	A-1+	F1+	Aa2	AA-	AA-	STABLE	STABLE	STABLE				
Landesbank Baden-Wuerttemberg - Stuttgart	P-1	A-1+	F1+	Aaa	AAA	AAA	STABLE	NEG	STABLE				
Landesbank Hessen-Thueringen	P-1	A-1+	F1+	Aaa	AAA	AAA	STABLE	NEG	STABLE				
Lloyds TSB Bank PLC - London	P-1	A-1+	F1+	Aaa	AA	AA+	STABLE	NEG	STABLE				
Norddeutsche Landesbank Girozentrale	P-1	A-1+	F1+	Aa1	NA	AAA	STABLE	NA	STABLE				
Rabo Bank NV	P-1	A-1+	F1+	Aaa	AAA	AA+	STABLE	STABLE	STABLE				
Royal Bank of Canada - Toronto	P-1	A-1+	F1+	Aa2	AA-	AA	STABLE	STABLE	STABLE				
Royal Bank of Scotland Group PLC	P-1	A-1	F1+	Aa2	A+	AA	STABLE	POS	STABLE				
Societe Generale - Paris	P-1	A-1+	F1+	Aa3	AA-	AA	STABLE	STABLE	NEG				
Standard Chartered PLC	NA	NA	F1	WR	A-	A+	STABLE	STABLE	STABLE				
Toronto Dominion Bank - Toronto	P-1	A-1	F1+	Aa3	A+	AA-	NEG	STABLE	STABLE				
UBS AG - Zurich	P-1	A-1+	F1+	Aa2	AA+	AAA	STABLE	NEG	NEG				
Westdeutsche Landesbank Girozentrale	P-1	A-1+	F1+	Aa1	AA+	AAA	STABLE	NEG	STABLE				
FOREIGN COUNTRY/SOVEREIGN CREDITS [Minimum AA or equivalent]													
Canada	P-1	A-1+	F1+	Aaa	AA+	AA+	STABLE	STABLE	STABLE				
France, Republic of	P-1	A-1+	F1+	Aaa	AA+	AAA	STABLE	STABLE	STABLE				
Germany, Federal Republic	P-1	A-1+	F1+	Aaa	AA+	AAA	STABLE	STABLE	STABLE				
Netherlands, Kingdom of	P-1	A-1+	F1+	Aaa	AA+	AAA	STABLE	STABLE	STABLE				
Switzerland	P-1	A-1+	F1+	Aaa	AA+	AAA	STABLE	STABLE	STABLE				
United Kingdom	P-1	A-1+	F1+	Aaa	AA+	AAA	STABLE	STABLE	STABLE				

Source: Bloomberg

Note: Country/Sovereign Ratings are not real time basis

* Under Review With Neutral Implications

*+ Under Review With Positive Implications

*- Under Review With Negative Implications

Equity Price Surveillance – Domestic

DOMESTIC ISSUER / COUNTERPARTIES		Price Quotes		% Price Change Last Trade to _____			Price Alert Price Change > +5% or -5%
		Last Trade 3/14/03 9:41	Prior Day	Prior Day	1 Month Ago	3 Month Ago	
American Express Co	USD	32.55	32.50	0.2%	-16%	-8%	
Bank of America Corporation	USD	67.60	67.20	0.6%	-7%	0%	
Bank of New York Co Inc.	USD	22.54	22.71	-0.7%	-16%	-12%	
Bank One Corporation	USD	35.00	34.98	0.1%	-9%	-7%	
Bear Stearns Companies Inc.	USD	59.32	58.65	1.1%	-9%	-2%	
BB&T Corporation	USD	31.78	31.76	0.1%	-16%	-10%	
Citigroup Inc.	USD	31.84	31.42	1.3%	-14%	-9%	
Comerica Inc.	USD	39.99	39.91	0.2%	-13%	-9%	
Countrywide Financial Corp.	USD	53.46	53.26	0.4%	-2%	6%	
Fannie Mae	USD	62.15	63.02	-1.4%	-11%	-3%	
Fifth Third Bancorp	USD	52.58	52.30	0.5%	-14%	-14%	
Fleetboston Financial Corporation	USD	24.00	24.21	-0.9%	-13%	1%	
Freddie Mac	USD	54.00	54.40	-0.7%	-15%	-7%	
Goldman Sachs Group Inc.	USD	64.92	64.30	1.0%	-13%	-10%	
JP Morgan Chase & Co	USD	21.29	21.51	-1.0%	-22%	2%	
Keycorp	USD	23.65	23.41	1.0%	-12%	-2%	
Lehman Brothers Holdings Inc.	USD	50.84	50.37	0.9%	-16%	-7%	
Marshall & Isley Corporation	USD	25.92	25.75	0.7%	-9%	-4%	
Mellon Financial Corporation	USD	21.22	21.19	0.1%	-22%	-23%	
Merrill Lynch & Co Inc.	USD	32.76	32.20	1.7%	-23%	-12%	
Morgan Stanley Dean Witter & Co.	USD	34.91	34.70	0.6%	-20%	-12%	
National City Corporation	USD	27.01	26.75	1.0%	-7%	3%	
Northern Trust Corporation	USD	31.53	31.53	0.0%	-15%	-12%	
PNC Financial Services Group	USD	42.20	42.21	0.0%	-5%	7%	
SouthTrust Corporation	USD	25.90	25.59	1.2%	0%	5%	
State Street Corporation	USD	36.33	36.55	-0.6%	-10%	-13%	
SunTrust Bank Inc.	USD	54.53	53.99	1.0%	-6%	-6%	
UnionBanCal	USD	39.95	39.75	0.5%	-5%	-2%	
US Bancorp	USD	20.15	20.00	0.7%	-12%	-2%	
US Central Credit Union	USD	Privately Held					
Wachovia Corporation	USD	34.22	34.10	0.4%	-10%	0%	
Wells Fargo & Co	USD	45.60	45.34	0.6%	-6%	-2%	
WesCorp	USD	Privately Held					
Aggregate Total	USD	1199.74	1195.56	0.3%	-12%	-6%	

Equity Price Surveillance – Foreign

FOREIGN ISSUER / COUNTERPARTIES		Price Quotes		% Price Change Last Trade to			Price Alert
		Last Trade 3/14/03 9:41	Prior Day	Prior Day	1 Month Ago	3 Month Ago	Price Change > +5% or -5%
Abbey National PLC	GBp	418.85	416.50	0.6%	-18%	-36%	
ABN-AMRO Holding NV	Ngl	14.05	13.95	0.7%	-15%	-6%	
Allianz AG	Dmk	66.85	66.15	1.1%	-28%	-31%	
Bank of Montreal	C\$	40.47	40.23	0.6%	-4%	6%	
Bank of Nova Scotia	C\$	50.61	50.47	0.3%	-3%	10%	
Barclays PLC	GBp	363.65	342.00	6.3%	-8%	-15%	ALERT
Bayerische Hypo und Verreinsbank	Dmk	10.09	10.27	-1.8%	-34%	-23%	
Bayerische Landesbank Girozentrale	Dmk	Privately Held					
BNP Paribas SA	Ffr	37.66	37.52	0.4%	-8%	-5%	
Caisse des Depots et Consignations	Ffr	Privately Held					
Canadian Imperial Bank of Commerce	C\$	41.74	41.65	0.2%	-7%	3%	
Credit Agricole SA	Ffr	14.45	14.30	1.0%	-6%	-16%	
Credit Suisse Group	Sfr	27.20	27.05	0.6%	-18%	1%	
Deutsche Bank	Dmk	38.40	38.09	0.8%	-15%	-17%	
HBOS PLC	GBp	596.97	589.00	1.4%	-7%	-16%	
HSBC Holdings PLC	GBp	659.52	655.50	0.6%	-6%	-7%	
ING Groep NV	Ngl	13.18	13.05	1.0%	-22%	-14%	
Landesbank Baden-Wuerttemberg	GBp	Privately Held					
Landesbank Hessen-Thuringen	GBp	Privately Held					
Lloyds TSB Group PLC	GBp	423.14	410.00	3.2%	-5%	-20%	
National Bank of Canada	C\$	31.50	31.90	-1.3%	-4%	5%	
Norddeutsche Landesbank Girozentrale	Dmk	Privately Held					
Rabobank Nederland NV	Ngl	Privately Held					
Royal Bank of Canada - Toronto	C\$	54.70	54.66	0.1%	-5%	-2%	
Royal Bank of Scotland Group PLC	GBp	1475.70	1449.00	1.8%	-1%	-1%	
Societe Generale - Paris	Ffr	50.20	48.49	3.5%	-12%	4%	
Standard Chartered PLC	GBp	638.78	643.50	-0.7%	-13%	-14%	
Toronto Dominion Bank - Toronto	C\$	33.20	32.49	2.2%	-6%	17%	
UBS AG - Zurich	Sfr	58.85	58.00	1.5%	-17%	-13%	
Westdeutsche Landesbank Girozentrale	Dmk	Privately Held					
Aggregate Total		5159.76	5083.77	1.5%	-8%	-12%	

Internal Tracking & Accounting System

- Oracle Database
- Accounting System
- Monitors Limits
- Tracks Usage by Counterparty
- Tracks Country Usage
- Maintain Ratings
- Sends e-mails to credit staff on each trade
- Maintained by Treasury Operations (independent of Investment Division)

WesCorp Limits

- WesCorp Capital

– Member Capital Account (3 yr. call)	\$616 million
– Paid in Capital (Perpetual)	213
– Reserves	<u>491</u>
– Total	<u>\$1,320 million</u>

- Limit per counterparty: 50%
- Minimum rating on counterparty: A- Domestic
A- Foreign
- Part I, II, III and IV authorities
- Must prove competence to NCUA

NCUA Investment Authorities

- Part I Can invest in A- securities and 28% IRR
- Part II Can invest in BBB securities
- Part III Can invest with foreign counterparties
- Part IV Can use derivatives
- Part V Loan Participations

Liquidity Needs and Counterparty Usage

- FHLBs: 11% liquidity =\$87 billion
- WesCorp: 25-30% liquidity =\$7 billion
- FHLBs have the Office of Finance to provide long term liquidity via the capital markets. Therefore FHLBs can maintain lower liquidity. But they still must have short term liquidity.
- WesCorp is the banker's bank for its 985 members and must maintain higher liquidity.

Small Lines verses Larger Lines

- Small Lines
 - More diversification of investments
 - More bank names required
 - Have to move further down the rating scale
 - More credit analysis and surveillance
 - Smaller potential loss
- Larger Lines
 - Focus on fewer lines
 - Easier to conduct surveillance
 - Fewer transactions
 - Too big-to-fail type institutions
 - Higher credit ratings
 - Headline risk
 - Larger potential loss

Counterparty Limits as a % of Capital

		WesCorp Capital = \$1,320 million				
	Aggregate	Money Market lines			Derivatives	
Guideline	Issuer	1-10 days	11-193	194-396	Limit	Tenor
Ratings	Limit	Days	Days	Days		Years
AAA	50%	50%	25%	15%	10%	10%
AA	50%	50%	25%	15%	10%	10%
A	30%	30%	15%	9%	6%	6%
A-	20%	20%	10%	6%	4%	4%
We don't go below A-						
		FHLB Limits	FHLB Limits			
		Overnight	Term			
AAA		30%	15%			
AA		28%	14%			
A		18%	9%			
BBB		6%	3%			
Below BBB		2%	1%			

Stress Testing Counterparty Risk

- Stress Testing and Credit Risk
 - Stress tests identify potential sources of losses based on “worst-case” movements in underlying risk
 - Concentrations: size, countries, maturity & rating
 - Market access and liquidity
 - Must identify material sources of loss
 - Should include how risk factors interact with one another

Potential Future Exposure Models (PFE)

- PFE is a probabilistic approach that measures both the frequency and magnitude of credit exposure
- PFE assumes that exposure can be sampled from the tail of a distribution based on data from normal markets
- PFE analysis is implemented in one of two forms:
 - Monte Carlo simulation
 - Analytical formulas
- PFE models calculate the credit exposure at specific points during the life of the transaction
- Or summarize the credit exposure across points in time

Conclusions

- FHLB concentration limits appear to balance risk and the ability to profitably invest liquid funds in unsecured money market instruments
- Securities “purchased under agreement to resell” is a secured short-term investment alternative. Especially whole loan repos at 20 to 35 bp yield advantage
- Credit review, analysis and surveillance is critical and should be well funded
- Potential Future Exposure (PFE) models should be considered at the combined bank level
- Consider a third party evaluation of credit risk analysis